

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/002317

International filing date (day/month/year)
01.06.2004

Priority date (day/month/year)
03.06.2003

International Patent Classification (IPC) or both national classification and IPC
C22C5/06

Applicant
MIDDLESEX SILVER CO. LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Brown, A

Telephone No. +49 89 2399-2563



20/559092

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/002317

APPROPRIATE 22 NOV 2005

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/002317

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-19
Inventive step (IS)	Yes: Claims	
	No: Claims	1-19
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

2. Citations and explanations

see separate sheet

IAP16 Rec'd PCT/PTO 22 NOV 2005

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2004/002317

Re Item V.

1. The Prior Art

D1: WO02095082 A2

D2: GB2255348 A

D3: JP6017167 A

D4: GB1130540

D5: EP0781842 A2

2. Novelty (Article 33(2) PCT)

2.1 Claim for a Ag-Ge-Cu alloy

D1 concerns ternary Ag-Ge-Cu alloys and quaternary Ag-Ge-Cu-Zn wherein the Zn is optional and discloses the following alloy composition ranges (see p.11, l.29-31).

92.5-96% Ag, 0.5-2% Ge and 1-7% Cu (the remainder) together with 1-40ppm of B added as a grain refiner. (All figures in wt%)

D2 concerns ternary Ag-Ge-Cu alloys and discloses the alloy composition ranges as follows (see claim 2):

92.5-96% Ag, 0.5-3% Ge, 1-7% Cu.

D3 concerns quaternary Ag-Ge-Sn-Cu alloys that have the general composition (see Abstract):

3.5-5.5 Cu, 0.5-3 Sn, 0.5-3 Ge and the balance being Ag (88.5-95.5%).

Additionally example alloy 2 given in table 1 of D3 has the following composition:

93.5% Ag, 4.5%Cu, 1.5% Ge and 0.5%Sn

In order for an alloy composition to be considered new, it is considered that its element ranges should fulfill the following 3 criteria.

1. The range must be narrow compared to the new range.
2. It should be sufficiently far removed from the known range, illustrated by means of examples and from the end points.
3. The claimed range should not be an arbitrary specimen of the existing prior art, that is there must be a technical effect in choosing the sub-range that teaches something new over the known broader range.

A comparison of the alloy composition of claim 1 with those of D1-D2 reveals that there is a substantial degree of overlap between the element ranges. As a result, none of the above criteria for novelty are met by the alloy of claim 1. Accordingly, claim 1 lacks novelty with respect to D1-D2. Furthermore, in view of the phrase "incidental ingredients" in claim 1, and that on page 9 of the applicant's description, it is mentioned that other elements including Sn upto 0.5 wt% may be added, claim 1 also lacks novelty with respect to D3. The subject matter of claims 4-11 would also appear to lack novelty with respect to D1.

The subject matter of claims 2 and 3 appear to be neither known from nor obviously derivable from the prior art.

2.2 A Use of a Surface Treatment Solution

D4 concerns the use of a solution for the protection of silver alloys against tarnishing and general surface discolouration. Disclosed in the use of a solution comprising 99 parts by weight of a volatile organic solvent and 0.1-1.8 parts of an organic solute containing an -SH group (see p.1, l.25-37). The solvent used may be a halohydrocarbon type (see p. 1, l. 75-76) and the best known solute compound are said to be Stearyl and cetyl mercaptans and thioglycollates with ideally C16 and C18 compounds. The solution is said to be suitable for treatment of silver alloys such as Sterling and Britannia silver.

Given the above disclosure in D4, it would appear that the only difference between the subject matter of claims 12-19 lies in the fact that the alloy composition in claims 1-8 are not specifically mentioned in D4. However, an inventive step would not be recognised as it would be obvious to the skilled person starting from D4 to apply its teaching for use with similar high silver content alloys such as those described in claims 1-8. Additionally, the use of n-propyl bromide as described in claim 16 is not considered

inventive as the use of this chemical as a solvent is well known to the skilled person (see D5 for example). Accordingly, claims 12-19 lack an inventive step with respect to D4 and D5.

3. Clarity (Article 6 PCT)

2.1 The phrase "incidental ingredients if any" in claim 1 is objected to on the grounds as it is not exactly clear what is meant by the phrase and it therefore makes the claim unclear thus preventing an assessment against the prior art for novelty and inventive step. The applicant should remove it and insert the relevant information regarding any other essential or optional elements that may be present in the alloy (see 3.2 below). An objection is also made to the use of the word "about" in claims 3 and 5 for the same reasons.

3.2 The properties of an alloy are determined in part by its composition. Any variation in the composition of an alloy can have both significant and unpredictable effects on its final properties. Hence a claim relating to an alloy must define the alloy precisely and completely. In practice this means that all elements and their ranges, both essential and optional must be clearly disclosed in the claim. A claim that fails to do this is deemed unclear and hence will be objected to under Article 6 PCT.

It is clear from claims 7 and 8 that there are additional elements that are present in the alloy within the ranges disclosed in claims 7 and 8. As described above, all elements, both essential and optional must be disclosed in claim 1. Thus claim 1 is objected to under Article 6 PCT. An example of an acceptable alloy definition could be as follows:

An alloy comprising A,B,C and optionally D,E,F with the balance being Cu.

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